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| KANG LIM | | | RUHL, DENNIS WILLIAM | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/007,002

Applicant(s)

NEAL ET AL.

Examiner

Dennis Ruhl

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 9, 14-19 and 25-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9, 14-19 and 25-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

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Applicant's amendment of 8/20/07 has been entered. Currently claims 1-4,9,14-19,25-28, are pending. The examiner will address applicant's remarks at the end of this office action.

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-4,9,25,26,29, are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

For claim 1, the limitation that the rule prioritizer is configured to "*prioritize*" a plurality of relaxable rules is considered to be new matter. The specification as originally filed disclosed that the user, not the system itself, decides the priority of the rules. The system is either set to a default priority mode for the rules (which was decided beforehand by a human who set up and programmed the system) or the user can select priorities for the rules that are other than the default settings, see the specification as was originally filed on page 21, lines 13-16. The rule prioritizer was not disclosed as actually prioritizing the rules, which is what is claimed.

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3. Claims 2,15, are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

For claims 2,15, applicant has amended the claim to recite "*and further wherein the largest impact on the optimization is determined by ranking all products by a marginal contribution to the optimization and selecting no more than N products by a mixed integer problem*". As this is best understood by the examiner the specification on page 33 is discussing this mixed integer problem. What are all of the variables that are used in this equation and how are they determined? This is not clear and does not seem to be discussed to an extent that would allow one skilled in the art to practice what is claimed. While applicant has some discussion as to how this mixed integer problem is solved, the discussion does not seem to be sufficient to the point where this aspect of the claim is enabled. The examiner has concluded that one of skill in the art would have to undergo undue experimentation to practice the claimed invention. How is this aspect of the claim performed? This is not clear. Is the discussion on page 33 the mixed integer problem that is referred to in the claims? If so, further clarification or explanation is required to explain how this is enabled.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 2,15, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claims 2,15, the language at the end of the claim that reads "*and wherein the selected no more than N products has the largest impact on the optimization of prices of any subset of no more than N products of the plurality of product, and further wherein the largest impact on the optimization is determined by ranking all products by a marginal contribution to the optimization and selecting no more than N products by a mixed integer problem*" is indefinite. The claim recites that the product designator "enables" a number N to designated, and the product designator selects no more than N products. What are the products that will have the largest impact on the optimization of prices of any subset of no more than N products of the plurality of products? One wishing to avoid infringement would have no idea what products are defined by this language and which products are not defined by this language. This renders the claim indefinite. Also, if one were doing an optimization for prices, how would you know what products will have the largest impact on the optimization of prices? This is like knowing the answer before the program is allowed to run. This does not seem to make any sense. The newly added language of "*and further wherein the largest impact on the optimization is determined by ranking all products by a marginal contribution to the optimization and selecting no more than N products by a mixed integer problem*" is also indefinite. This added language is directed to the manner by which the selected N

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products are chosen. What structure does this define to the claimed system? The examiner has no idea what this language is attempting to define.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4,9,14-19,25-30, are rejected under 35 U.S.C. 102(b) as being anticipated by Reuhl et al. (5873069).

For claims 1,14, Reuhl discloses a method and system (with software) where product sales and price data is entered into a computer system and the system then “optimizes” (optimization engine) the prices of numerous products based on the inputted sales data. The system is configured to find the best price for products, which is done to achieve a business goal. The system is optimizing in the sense that they are making the system determine the best price, which to Reuhl, is the lowest price. The software has a rule prioritizer with criteria (rules) for figuring out the final pricing of the products. The rules include looking for sales prices, advertised prices, etc., as well as applying a cent code to the resulting lowest price, and then the rules check to ensure that the new active price with the cent code is not greater than the competitor price. If the new price with the cent code results in the price being higher than the competitor price, then a new active price is calculated by incrementally relaxing the cent code rule (done by a rule

relaxation module portion of the software). This is an iterative process. If the calculated price for a given item(s) is \$4.53, and the cent code rule requires the item to end in a 9, the price is changed to 4.59 in accordance with the cent code rules. Then the system compares the price of \$4.59 to the competitor's price to ensure that a higher priority rule (lowest price) is feasible. If \$4.59 is not the lowest price, 10 cents is subtracted to arrive at a new price, which is \$4.49 (relaxing the cent code rule that stated the price should end in 9, namely from \$4.53 to \$4.59). The incrementally relaxing (rule relaxation module) of the rule results in the price changing from \$4.59 to \$4.49. This is done in increments of 10 cents at a time. The rules are prioritized as claimed because the rules for figuring out prices look to various conditions and moves on to other conditions if prior conditions are not feasible (result in the price being higher than the competitor). The storage medium of claim 1 is disclosed in column 3, lines 29-32. The steps of storing initial prices are satisfied because at some point you must input some kind of price into the system. This is inherent. Also, when new data is sent to the system, the price setting process is repeated, which also defines an "iterative" process. Reuhl discloses a product designator configured to designate a subset of products. This is because the computer system (software) only optimizes prices for products that have had new sales data entered into the system, which is in the scope of what is claimed. Applicant also disclosed this as an example on page 28, *"One possible assumption for an algorithm may be that the maximum number is at least as large as the number of products with information changes"*. So in Reuhl, if sales data for televisions is updated in the system, the prices for batteries will not be changed. This satisfies what is claimed. The

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examiner encourages applicant to read the entire patent to Reuhl, but also refers applicant to the following sections of particular relevance to the claimed invention. See column 6, lines 29-44; col. 7, lines 23-39; col. 8, lines 12-27; col. 10, lines 28-32; col. 11, and lines 26 to column 12, line 52. With respect to the newly added limitation of a "rule editor", the examiner considers this to be inherent to Reuhl. Applicant has claimed a rule editor that allows the rules to be set by a user. In Reuhl a person had to program the system and write the computer program that runs the optimization. All computer programs are capable of being edited and changed if one desired to do so. In Reuhl there is an inherent ability to set the rules any way a user wants, you just need to change the programming. If one wanted to, they could change the programming to specify that prices ending in a 7 as opposed to a 9 are to be run again for a new price. Nothing is stopping a user from changing the actual program itself to set new rules. This ability is inherent to Reuhl and the examiner believes that this reads on what is claimed. With respect to the language reciting rule parameters and the fact that the plurality of rules are set using these parameters, this appears to be more of a method step which defines no further structure to the system claimed in claim 1. Inherently the rules are set using some sort of parameters. The person who decides on the rules has some parameters in mind when they decide on the rules themselves. With respect to claiming that the rule editor uses default values, this is found in Reuhl. The default values are those that are programmed into the system.

For claims 2,15, the "N" products are the number of products that the new sales data relates to. N can be the number of televisions that prices are being optimized for.

As best understood by the examiner, this satisfies what is claimed. In the opinion of the examiner all that is claimed is the ability to designate a number N, or allowing a number to be designated (which is not even actually designating the number, just allowing it to occur). The manner by which the number N is determined is not given much weight because this can be done by the person and not the system. The product designator allows a number N to be designated and then that number of products is selected. The manner by which that number is determined is not seen as being related to the system as claimed as this can be done by a person.

For claim 3,16,25-28, Reuhl results in prices for items that are optimized for profit, total revenue, and sales volume. The intent of the price determination system and method of setting prices is to make money by selling your products. By ensuring that your prices are lower than competitor's prices, you are optimizing the prices for profit, total revenue, and sales volume at the same time. If you have the lowest prices in a particular area for a given item, you will sell more of that item than you would otherwise sell if the price were higher, and this results in a greater sales volume, a greater total revenue (if you sell more of the items, you bring in more money), and a greater profit due to the greater sales volume.

For claims 4,9,17, with respect to "initial prices", once you run an optimization routine, the very last price prior to the optimization is the "initial price". Reuhl discloses what is claimed.

For claims 18,19, the claimed "new data" is the newly received pricing data that is used to arrive at new prices and the new price bound data is the identification of the

product that the newly received pricing data is for. When a competitor changes the price of an item, data is received that identifies the product and the new price. The optimization methodology is then followed to figure out a new price. This satisfies what is claimed.

For claims 29,30, because of the ability to change the programming one is capable of configuring a unit pricing rule. This would be the change in price for a given product. A product is a unit (i.e. singular).

8. Applicant's arguments filed 8/20/07 have been fully considered but they are not persuasive.

With respect to the recitation that the rule prioritizer is prioritizing the rules the examiner still believes this to be new matter. The specification as originally filed disclosed that the user, not the system itself, decides the priority of the rules. The system is either set to a default priority mode for the rules (which was decided beforehand by a human who set up and programmed the system) or the user can select priorities for the rules that are other than the default settings, see the specification as was originally filed on page 21, lines 13-16. The rule prioritizer was not disclosed as actually prioritizing the rules, which is what is claimed. The problem was not just due to the word "iteratively". The rejection will be maintained.

For claims 2,15, and the 112 rejection the arguments are not persuasive. The added claim language does not seem to clarify this issue and seems to make it more

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confusing. Also, now the examiner is concerned about the enablement of this aspect of the claim as is set forth in the 112,1st rejection of record.

Applicant again argues that Reuhl is not directed to the optimization of prices but is directed to setting of prices to be the lowest price. Applicant is claiming a process of setting prices that is disclosed by Reuhl, as far as the claim language goes. By having the lowest prices for various products, the owner of the system of Reuhl is configuring the system to arrive at a price that is effective as possible, which to them is the lowest price. It is very well known in economics that lower prices attract consumers and consumers don't want to have to pay more for a product than they have to. By having the lowest prices, this allows for increased sales volume and increased profits due to the increased sales volume for that given item. Also the increased sales volume and profit can be due to the fact that you get customers into the store by luring them in with the low priced goods. Reuhl does teach a method of optimization. The argument is not persuasive.

With respect to the argument that in Reuhl there is not prioritization to the rules this is not persuasive. The software has a rule prioritizer with criteria (rules) for figuring out the final pricing of the products. The rules include looking for sales prices, advertised prices, etc., as well as applying a cent code to the resulting lowest price, and then the rules check to ensure that the new active price with the cent code is not greater than the competitor price. If the new price with the cent code results in the price being higher than the competitor price, then a new active price is calculated by incrementally relaxing the cent code rule (done by a rule relaxation module portion of the software).

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This is an iterative process. If the calculated price for a given item(s) is \$4.53, and the cent code rule requires the item to end in a 9, the price is changed to 4.59 in accordance with the cent code rules. Then the system compares the price of \$4.59 to the competitor's price to ensure that a higher priority rule (lowest price) is feasible. If \$4.59 is not the lowest price, 10 cents is subtracted to arrive at a new price, which is \$4.49 (relaxing the cent code rule that stated the price should end in 9, namely from \$4.53 to \$4.59). The incrementally relaxing (rule relaxation module) of the rule results in the price changing from \$4.59 to \$4.49. This is done in increments of 10 cents at a time. The rules are prioritized as claimed because the rules for figuring out prices look to various conditions and moves on to other conditions if prior conditions are not feasible (result in the price being higher than the competitor).

With respect to the "rule editor", this has been addressed in the current rejection of record, which applicant is referred to.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Ruhl whose telephone number is 571-272-6808. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Weiss can be reached on 571-272-6812. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



DENNIS RUHL
PRIMARY EXAMINER